

Drabkin et al. For at least the reasons set forth herein, this rejection is respectfully traversed.

Weissman describes the spacing between genes including linkage that may be related to a disease. Weissman, however, fails to disclose or even suggest applicants' invention as now claimed. Weissman is unrelated to a method of staining targeted chromosomal material, wherein said targeted chromosomal material is a genetic rearrangement associated with chromosome 3 and/or chromosome 17 in humans. While Weissman describes spacing between and linkage of genes, Weissman is unrelated to detection of a genetic rearrangement in general, or more specifically one associated with chromosome 3 and/or chromosome 17 in humans. Nor does Weissman include any motivation to detect such chromosomal rearrangements using unique sequence probes as claimed. Instead, Weissman seeks to "determine the distance between, and/or orientation of two known genomic gene regions which are separated by a gene spacing of between about 20 and 2,000 kilobases" (col. 6, lines 55-59).

Weissman further fails to disclose or even suggest applicants' invention as recited in claims 48-50. In particular, with respect to claims 49 and 50, Weissman fails to disclose or even suggest a method of staining target *interphase* chromosomal material. By contrast, Weissman discloses only mapping to metaphase spreads (*see*, for example, Figure 5, Section VI and Example XI). That interphase chromosomal material could be reliably stained in a method as claimed is in no way taught by Weissman.

At page 4 of the Official Action, the Examiner acknowledges that Weissman fails to disclose or suggest interphase target assays as well as specific assaying directed to

translocations in chromosomes 3 and/or 17. Licher, Rowley et al and Drabkin et al are cited as allegedly overcoming these deficiencies. These references, however, fail to overcome or remedy the deficiencies of Weissman.

The secondary reference of Licher et al is not prior art to applicants' claimed invention. The claims of record are entitled to the priority dates of January 16, 1986 and December 4, 1986, in view of the fact that support for the claims may be found in these earlier applications from which priority is claimed. For example, support for claims 1 and 48-50 may be found at the very least in Application Serial No. 937,793, filed December 4, 1986, at pages 8-15 and pages 32-39 and original claims 1, 3 and 17. Support for the pending claims may also be found at the very least in Application Serial No. 819,314, filed January 16, 1986, at pages 11-14, pages 31-38 and original claims 1, 3 and 17. Support for the recitation that the genetic rearrangement is associated with chromosome 3 and/or chromosome 17 is implicit in the description that the staining reagents useful in the invention are specific to single chromosomes at page 11, lines 1-5 of Application Serial No. 937,793 and at page 10, lines 17-21 of Application Serial No. 819,314. Original claim 3 in both priority applications also makes clear that the targeted chromosomal material can be each of the individual, normal human chromosomes 1-22, X or Y, which provides a specific description of chromosome 3 and/or 17. One skilled in the art would understand these generic descriptions of staining targeted chromosomal material to detect genetic rearrangements and the specific description of "normal human chromosomes 1 through 22,

X and Y," to describe each of the chromosomes, including chromosomes 3 and 17, as being the targeted material.

In view of the fact that support may be found in the instant application, which is identical to the series of applications from which priority is claimed as a divisional and continuation, and support may be found in the 06/937,793 and 06/819,314 applications filed in 1986 from which priority is claimed as a continuation-in-part, Lichter et al published in 1988 is not a proper prior art reference. The combination of Lichter et al with Weissman and with Rowley et al and Drabkin et al is thus improper.

Absent the disclosure of Lichter et al, there is nothing in the art cited by the Patent Office to disclose or even suggest a method of staining target *interphase* chromosomal material, as claimed by applicants. That interphase chromosomal material could be reliably stained in a method as claimed is in no way taught by Weissman, Rowley et al or Drabkin et al.

Withdrawal of the rejection of the claims as being unpatentable over Weissman in view of Lichter and Rowley et al or Drabkin et al is thus respectfully requested and believed to be in order.

Claims 1 and 48-50 have also been provisionally rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 72, 75, 78, 81, 84, 88, 89, 96 and 97 of copending Application Serial No. 08/487,701; and claims 1 and 48-50 of copending Application Serial No. 08/477,316. Upon indication that the instant application is otherwise in condition for allowance,

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applicants will evaluate the claims and consider filing a Terminal Disclaimer to overcome this provisional rejection.

In view of the above, further and favorable action in the form of a Notice of Allowance is respectfully requested.

In the event that there are any questions relating to this response, or to the application in general, it would be appreciated if the Examiner would telephone the undersigned attorney concerning such questions so that prosecution of this application may be expedited.

Respectfully submitted,

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